

Trend Study 17-66-05

Study site name: Sand Wash .

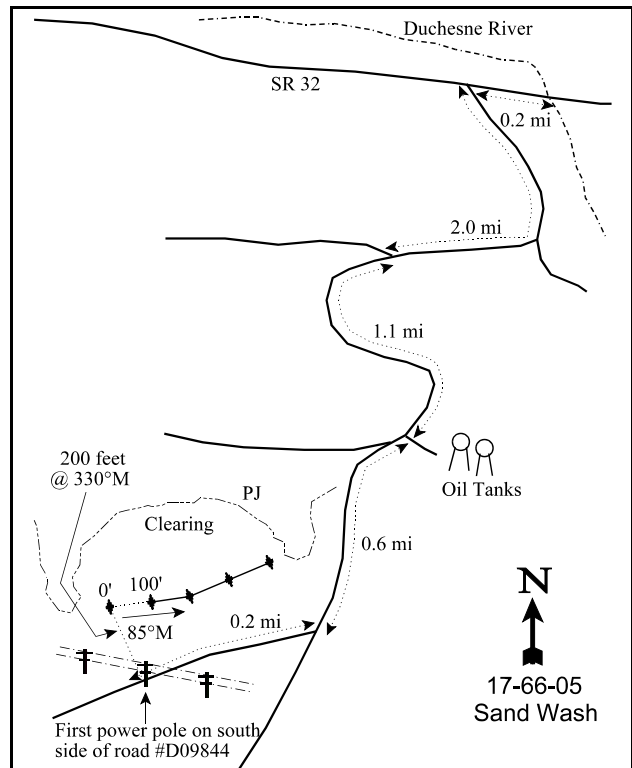
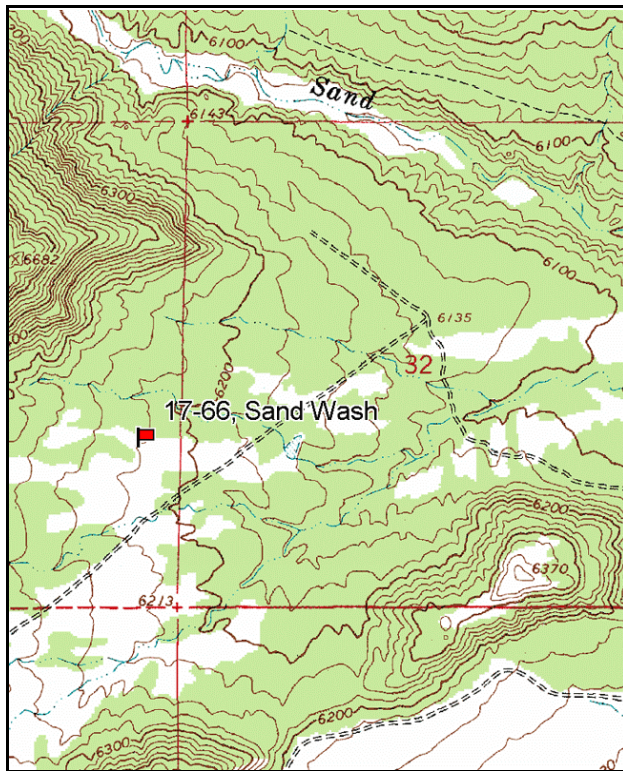
Vegetation type: Wyoming Big Sagebrush .

Compass bearing: frequency baseline 85 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

From State Route 87 turn onto State Route 32 heading west. Turn left onto a road heading south 0.2 miles after crossing the Duchesne River. Travel 2.0 miles to a fork in the road and stay to the left. Continue another 1.1 miles to a fork that goes to some oil tanks. Drive straight for 0.6 miles to another fork. Go to the right and drive 0.2 miles to the first power pole on the south side of the road, #D09844. From here walk 200 feet at 330 degrees magnetic to the 0' stake.



Map Name: Talmage

Diagrammatic Sketch

Township 2S, Range 5W, Section 31

GPS: NAD 27, UTM 12T 4456642 N, 543822 E

DISCUSSION

Sand Wash - Trend Study No. 17-66

The Sand Wash trend study was established in 2005. The land is owned and managed by the Division of Wildlife Resources in the Rabbit Gulch Management Area. The range type is a Wyoming big sagebrush/Pinyon-Juniper with an eastern exposure at 6,220 feet. Slope is slight at 4%. This area receives high deer use and may be chained in the future. Because of the moderately low densities and relatively small diameter trees (especially the pinyon trees), some treatment other than chaining would be more practical. Hand thinning with chain saws would work well in this situation. Pellet group data from 2005 was estimated at 19 elk and 21 deer days use/acre (48 edu/ha and 51 ddu/ha).

Soil is moderately deep with an effective rooting depth estimated at 13 inches. The soil has a sandy loam texture with a slightly alkaline pH of 7.7. No stones are located in the profile and surface rock and pavement are minimal. Bare ground cover was moderately high at 51%. The erosion condition class determined soil movement as stable in 2005.

Browse species are not abundant, but the key browse species is Wyoming big sagebrush. Wyoming big sagebrush had an average cover of just over 3% with a density of 1,120 plants/acre in 2005. Decadence is extremely high at 77%, although this is not unusual for Wyoming big sagebrush in the Uinta Basin area. Just under half (46%) of the population was classified as dying in 2005. Young or seedling plants were not observed in 2005 and probably competitively excluded because of the competition for resources from the dense stand of needle-and-thread grass and pinyon and juniper woodland. Several years of drought have also been a factor. This population of sagebrush may die off in the future if young recruitment is not able to replace dying plants. The extended drought conditions since 2000 have had more influence on this condition other than the mostly light to moderate utilization of the mature plants. In 2005, precipitation was above normal and leader growth and seed head production were relatively moderate.

Other shrubs include a small population of winter fat, yucca, pinyon pine, and juniper. Pinyon and juniper are very abundant surrounding the site and point-center quarter data estimated 45 juniper trees/acre with a mean diameter of 7 inches in 2005. Pinyon pine estimated 21 trees/acre with a mean diameter of only 1.9 inches.

The herbaceous understory is dominated by perennial grasses, mainly needle-and-thread. Needle-and-thread had an average cover of 13% and accounted for over half of the vegetation cover in 2005. Other perennial grasses include galleta, Indian ricegrass, and salina wildrye. Forbs are few and one-half are low growing annual species.

The Desirable Components Index rated this site as fair with a score of 29 in 2005 due to low shrub cover, high browse decadence, and although it had excellent perennial grass cover.

2005 winter range condition (DC Index) - fair (29) Lower Potential scale

HERBACEOUS TRENDS --

Management unit 17 , Study no: 66

T y p e	Species	Nested Frequency	Average Cover %
		'05	'05
G	<i>Bouteloua gracilis</i>	8	.11
G	<i>Elymus salina</i>	71	.67
G	<i>Hilaria jamesii</i>	134	3.61
G	<i>Oryzopsis hymenoides</i>	4	.03
G	<i>Sitanion hystrix</i>	1	.00
G	<i>Stipa comata</i>	319	12.82
G	<i>Vulpia octoflora</i> (a)	3	.01
Total for Annual Grasses		3	0.00
Total for Perennial Grasses		537	17.27
Total for Grasses		540	17.28
F	<i>Chenopodium album</i> (a)	7	.01
F	<i>Chenopodium leptophyllum</i> (a)	2	.00
F	<i>Collinsia parviflora</i> (a)	3	.01
F	<i>Cryptantha</i> sp.	1	.00
F	<i>Descurainia pinnata</i> (a)	10	.03
F	<i>Eriogonum cernuum</i> (a)	57	.21
F	<i>Haplopappus acaulis</i>	14	.31
F	<i>Hymenoxys acaulis</i>	11	.06
F	<i>Lappula occidentalis</i> (a)	17	.50
F	<i>Navarretia intertexta</i> (a)	11	.05
F	<i>Phlox austromontana</i>	2	.03
F	<i>Sphaeralcea coccinea</i>	11	.13
F	<i>Townsendia incana</i>	8	.02
Total for Annual Forbs		107	0.82
Total for Perennial Forbs		47	0.56
Total for Forbs		154	1.38

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --

Management unit 17 , Study no: 66

Type	Species	Strip Frequency	Average Cover %
		'05	'05
B	Artemisia tridentata wyomingensis	39	3.38
B	Ceratoides lanata	2	.15
B	Juniperus osteosperma	4	1.83
B	Leptodactylon pungens	1	.00
B	Opuntia sp.	13	.15
B	Sclerocactus sp.	1	.03
B	Yucca sp.	1	.15
Total for Browse		61	5.72

CANOPY COVER, LINE INTERCEPT --

Management unit 17 , Study no: 66

Species	Percent Cover
	'05
Artemisia tridentata wyomingensis	4.80
Juniperus osteosperma	4.46
Opuntia sp.	.21

KEY BROWSE ANNUAL LEADER GROWTH --

Management unit 17 , Study no: 66

Species	Average leader growth (in)
	'05
Artemisia tridentata wyomingensis	2.1

POINT-QUARTER TREE DATA --

Management unit 17 , Study no: 66

Species	Trees per acre	Average diameter (in)
	'05	'05
Juniperus osteosperma	45	7.0
Pinus edulis	21	1.9

BASIC COVER --

Management unit 17 , Study no: 66

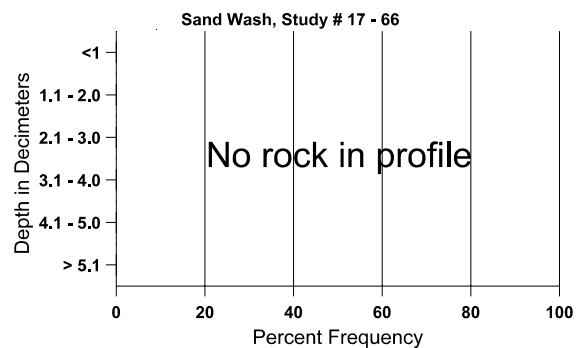
Cover Type	Average Cover % '05
Vegetation	25.61
Rock	.06
Pavement	.16
Litter	27.84
Cryptogams	2.95
Bare Ground	51.04

SOIL ANALYSIS DATA --

Herd Unit 17, Study # 66, Study Name: Sand Wash

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	ppm P	ppm K	dS/m
12.8	59.8 (14.7)	7.7	64.7	17.1	18.2	0.6	6.4	64.0	0.5

Stoniness Index



PELLET GROUP DATA --

Management unit 17 , Study no: 66

Type	Quadrat Frequency '05	Days use per acre (ha) '05
Rabbit	50	-
Elk	26	19 (48)
Deer	19	21 (51)
Cattle	1	-

BROWSE CHARACTERISTICS --

Management unit 17 , Study no: 66

		Age class distribution (plants per acre)					Utilization					
Y e a r	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Artemisia tridentata wyomingensis												
05	1120	-	-	260	860	2340	43	20	77	46	48	16/28
Ceratoides lanata												
05	40	-	-	40	-	-	0	50	-	-	0	9/13
Grayia spinosa												
05	0	-	-	-	-	-	0	0	-	-	0	23/30
Juniperus osteosperma												
05	100	-	20	80	-	-	0	0	-	-	0	-/-
Leptodactylon pungens												
05	20	-	-	-	20	-	100	0	100	100	100	-/-
Opuntia sp.												
05	400	-	20	380	-	40	0	0	-	-	0	4/14
Sclerocactus sp.												
05	60	-	60	-	-	20	0	0	-	-	0	-/-
Yucca sp.												
05	80	-	80	-	-	-	0	0	-	-	0	10/15